



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,073	01/16/2004	Jong Cheol Choi	1630-0503PUS1	5287
2292 7590 01/23/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
SELLERS, DANIEL R				
ART UNIT		PAPER NUMBER		
2614				
NOTIFICATION DATE		DELIVERY MODE		
01/23/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/758,073

**Applicant(s)**

CHOI, JONG CHEOL

**Examiner**

DANIEL R. SELLERS

**Art Unit**

2614

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1.5-8,10-12,16-19 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1.5-8,10-12,16-19 and 21-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 10/23/08 have been fully considered but they are not persuasive.
2. Regarding the independent claims 1, 7, 12 and 18, the examiner respectfully disagrees. RG teaches the amended feature. Specifically, RG, on the calculation page, teaches determining the audio level average (RMS), wherein it excludes audio levels outside a prescribed range by virtue of choosing the RMS value 5% down from the top of the sorted list. It is inherent that the prescribed range, and even the levels not excluded, extends from a maximum audio reference level to a minimum audio reference level by virtue of the physical limitations of the audio circuitry and the digital format.
- 3.

### ***Claim Objections***

4. Claim 23 is objected to because of the following informalities: Claim 23 was presented as a new claim in a mailed response received 10/17/2007, but has been omitted from the current claim listings. It is rejected as presented previously, however if the applicant wishes to cancel the claim, the appropriate claim identifier (i.e. cancelled) should be presented in the next response. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 261415

6. **Claims 1, 5-8, 10-12, 16-19, and 21-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Replay Gain (previously cited) in view of Takahiro, JP 02-089252 (hereinafter RG and Takahiro, respectively).
7. Regarding **claim 1**, RG teaches a method for controlling an audio recording level, comprising the steps of:

*a) detecting audio data and determining an audio level average of the audio data (see RG's Calculation page, "2. RMS Energy Calculation", ([http://web.archive.org/web/20010827010748/privatewww.essex.ac.uk/~djrmrob/replaygain/calculating\\_rg.html](http://web.archive.org/web/20010827010748/privatewww.essex.ac.uk/~djrmrob/replaygain/calculating_rg.html)), archived on 08/27/2001, and hereinafter calculation page); and*

*b) variably controlling an audio level of a song to be recorded later on the basis of the audio level average (see RG's Outline page, Basic Steps, #4, (<http://web.archive.org/web/20010827022814/privatewww.essex.ac.uk/~djrmrob/replaygain/outline.html>), archived on 08/27/2001, and hereinafter outline page),*

*wherein the step b) comprises:*

*calculating an offset value between the detected audio level average and an audio level average of a previously recorded song;*

*adjusting an audio level of a subsequent song unit on the basis of the offset value (see calculation page, "4. Calibration with reference level"); and*

*encoding and recording the subsequent song unit having the adjusted audio level (see calculation page, "4. Calibration with reference level", wherein the difference is "store[d]... in the audio file"), and*

*wherein the step (a) determines the audio level average of the decoded data by excluding certain parts of the decoded data having an audio level outside of a prescribed range extending from a maximum audio reference level to a minimum audio reference level.* (see calculation page, "3. Statistical Processing")

The introduction page, "Replay Gain - A Proposed Standard",

(<http://web.archive.org/web/20011005165428/privatewww.essex.ac.uk/~djrmrob/replaygain/index.html>) (archived on 10/05/2001 and hereinafter introduction page) links to the contents page by the "Read on to find out more" link,

(<http://web.archive.org/web/20011031173847/privatewww.essex.ac.uk/~djrmrob/replaygain/contents.html>) (archived on 10/31/2001 and hereinafter contents page). The calculation page is linked to "6. Calculating the replay gain" on the contents page, and

Art Unit: 261415

the outline page is linked to "4. Outline of the Replay Gain Proposal" on the contents page. RG teaches calculating an offset value between the detected audio level average and an audio level average of a previously recorded file (RG's Calibration page, p. 2, "Implementation",

(<http://web.archive.org/web/20020106152700/http://privatewww.essex.ac.uk/~djmrob/replaygain/calibration.html>), archived on 01/06/2002, and hereinafter "calibration page"). On the calibration page, RG teaches a pink noise audio file to create a reference audio level average, to which every subsequent song is compared (i.e. the replay gain is the difference between the average level of the pink noise file and the current song's detected audio level average). RG also teaches adjusting the audio level based on the offset value (see calculation page, "4. Calibration with reference level"). RG, on the calculation page, teaches determining the audio level average (RMS), wherein it excludes audio levels outside a prescribed range by virtue of choosing the RMS value 5% down from the top of the sorted list. It is inherent that the prescribed range and the levels not excluded extend from a maximum audio reference level to a minimum audio reference level by virtue of the physical limitations of the audio circuitry and the digital format. However, RG does not appear to teach a previously recorded song as currently understood.

Takahiro teaches an automatic volume adjusting device, wherein a current song is adjusted according to a peak volume of a previously recorded song (abstract). It is obvious to substitute the reference pink noise track with a previously recorded song, wherein RG provides source code to modify (see calibration page, p. 2,

Art Unit: 261415

"Implementation", wherein "ref\_pink.wav" can be replaced by the teachings of Takahiro). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of RG and Takahiro for the purpose of adjusting the volume to a user's preferred volume level, wherein the preferred volume level would be the level at which the user set the system during the first played song.

8. Regarding **claim 5**, see the preceding argument with respect to claim 1, the combination teaches a method as set forth in claim 1, further comprising

*simultaneously recording the audio data to a recording medium, and (c) recording the variably controlled audio level of the song to the recording medium (see calculation page, "4. Calibration with reference level" and see outline page, "Basic Steps", step 3).*

9. Regarding **claim 6**, see the preceding argument with respect to claim 5, the combination teaches a method as set forth in claim 5, wherein

*the recording medium is one of the following:*

*an optical disk,*

*a HDD (hard disk driver) (see introduction page, wherein "The Problem" teaches encoding mp3 files from CD audio files and "The solution" teaches storing a replay gain value in the mp3 metadata),*

*a DRAM (dynamic random access memory), and*

*a flash memory.*

It is inherent that the mp3 files are stored on a HDD or the like.

10. Regarding **claim 7**, see the preceding argument with respect to claim 1. The combination teaches a method for controlling an audio recording level, comprising the steps of:

*a) decoding entry audio data to be recorded in song units, and determining an audio, level average of the decoded entry audio data (see calculation page and see RG's File Format page, "Where to store them?", ([http://web.archive.org/web/20010827020146/privatewww.essex.ac.uk/~djmbob/replaygain/file\\_format.htm](http://web.archive.org/web/20010827020146/privatewww.essex.ac.uk/~djmbob/replaygain/file_format.htm)), archived on 08/27/2001, and hereinafter file format page); and*

*b) variably controlling a level of subsequent decoded audio data on the basis of the determined audio level average (see RG's Player Requirements page, "1. Scale audio to match*

Art Unit: 261415

Replay Gain",

(<http://web.archive.org/web/20010827024445/privatewww.essex.ac.uk/~djmr0b/replaygain/player.html>), archived on 08/27/2001, and hereinafter player requirements page),<sub>4</sub>

*wherein the step b) includes the steps of:*

*calculating an offset value between the detected audio level average and an audio level average of a previously recorded song (see Takahiro, abstract);*

*adjusting an audio level of a subsequent song unit on the basis of the offset value (see calculation page, "4. Calibration with reference level"); and*

*encoding and recording the subsequent song unit having the adjusted audio level (see calculation page, "4. Calibration with reference level", wherein the difference is "store[d]... in the audio file").* and

*wherein the step (a) determines the audio level average of the decoded data by excluding certain parts of the decoded data having an audio level outside of a prescribed range extending from a maximum audio reference level to a minimum audio reference level.* (see calculation page, "3. Statistical Processing")

RG teaches decoding the audio data, wherein different file formats are proposed, such as MP3 and WAV formats (see calculation and file format pages). It is implicit that one of these formats is decoded to determine the audio level average. RG, on the calculation page, teaches determining the audio level average (RMS), wherein it excludes audio levels outside a prescribed range by virtue of choosing the RMS value 5% down from the top of the sorted list. It is inherent that the prescribed range and the levels not excluded extend from a maximum audio reference level to a minimum audio reference level by virtue of the physical limitations of the audio circuitry and the digital format. The combination of RG and Takahiro teaches the calculation between the detected audio level average and an audio level average of a previous song (see above).

11. Regarding **claim 8**, see the preceding argument with respect to claim 7. The combination teaches a method as set forth in claim 7, wherein the previously recorded song is a firstly recorded song (see Takahiro, abstract).

Art Unit: 261415

12. Regarding **claim 10**, the further limitation of claim 7, see the preceding argument with respect to claims 6 and 7. The combination teaches these features.

13. Regarding **claim 11**, see the preceding argument with respect to claim 7. The combination teaches a method as set forth in claim 7, wherein

*the decoded entry audio data is in a first audio format type, and the subsequent decoded audio data is in a second audio format type, the first and second audio format types different from each other (see introduction, wherein RG teaches a CD audio format and a subsequent MP3 audio format with metadata for title, artist, and CD track number).*

14. Regarding **claim 12**, see the preceding argument with respect to claim 1. The combination teaches an apparatus with these features, wherein it teaches a method performed on a personal computer system.

15. Regarding **claim 16**, the further limitation of claim 12, see the preceding argument with respect to claim 5. The combination teaches these features.

16. Regarding **claim 17**, the further limitation of claim 16, see the preceding argument with respect to claim 6. The combination teaches these features.

17. Regarding **claim 18**, see the preceding argument with respect to claim 7. The combination teaches an apparatus with these features, wherein it teaches a method performed on a personal computer system.

18. Regarding **claim 19**, the further limitation of claim 18, see the preceding argument with respect to claim 8. The combination teaches these features.

19. Regarding **claim 21**, the further limitation of claim 18, see the preceding argument with respect to claim 6. The combination teaches these features.

20. Regarding **claim 22**, the further limitation of claim 18, see the preceding argument with respect to claim 11. The combination teaches these features.



Art Unit: 261415

21. Regarding **claim 23**, the further limitation of claim 18, see the preceding argument with respect to claim 5. The combination teaches these features.

### ***Conclusion***

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Keller et al., US 6,621,768 B1 (previously cited) - teaches a compact disc recorder with normalization features (column 1, lines 24-43, column 4, lines 46-48, and column 24, lines 15-20);

Kincaid, US 7,072,477 B1 (previously cited) - teaches normalizing audio tracks in a portable digital device (figures 1-5 and abstract);

Nakano et al., (previously cited) - teaches an automatic gain control device for adjusting input sound signals to proper values (Column 1, lines 9-17);

Rzeszewski, (previously cited) - calculates a power level and compares it to a threshold (abstract);

Dougherty, (previously cited) - teaches dynamic compression and automatic gain adjustment (Column 1, lines 16-22 and Column 10, line 64 - Column 11, line 6); and

Mayer, (previously cited) - teaches automatic volume normalization (§¶ 0007).

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 261415

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL R. SELLERS whose telephone number is (571)272-7528. The examiner can normally be reached on Tuesday to Friday, 8am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571)272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 261415

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel R. Sellers/  
Examiner, Art Unit 2614  
/CURTIS KUNTZ/  
Supervisory Patent Examiner, Art Unit 2614